561 **SOLAR HEAT COLLECTOR FOR POND OR POOL**
562 .Including auxiliary source for adding heat to pool
563 .Remotely located from pool
564 .Within pool water
565 .On pool water surface
566 ..Pool cover is collector
567 .With means to extract heat from pond liquid
568 .In contact with pond liquid
569 **SOLAR HEAT COLLECTOR**
570 .Having external damage preventer
571 ..Comprising movable support
572 .With control means energized in response to actuator stimulated by condition sensor
573 ..Including sun position tracking sensor
574 ...With computer
575 ...With timer
576 ...With motor
577 ....With gear
578 ...Electronic sensor
579 ...Fluid expansion sensor
580 ....Gas
581 ...Solid expansion sensor
582 ...Phase change sensor
583 ..Of fluent medium
584 ...Pressure responsive
585 ...Temperature responsive
586 ....Set point control
587 ....Differential temperature control
588 ....Freezing prevention
589 ....Overheating prevention
590 ...Fluid level responsive
591 ...Of fluid flow
592 ....Liquid
593 ..Of collector
594 ...Pressure responsive
595 ...Temperature responsive
596 ....Set point control
597 ....Differential temperature control
598 ....Freezing prevention
599 ....Overheating prevention
600 .With means to reposition solar collector for optimum radiation exposure
601 ..Computer
602 ..Timer
603 ...Electric
604 ..Having fluid power
605 ..Motor
606 ...Gearing
607 ..Gearing
608 ..Manual
609 .With auxiliary heat source for fluent medium
610 ..In a tank
611 ..In a heat exchanger
612 ..In the collector
613 ..Heat pump
614 ..Fireplace
615 ..Water heater
616 ..Hot air furnace
617 .With heat storage mass
618 ..Phase change
619 ..Specific chemical
620 ..Rocks or soil
621 .Solar collector forms part of building roof
622 ..Solar collector includes roof shingles or tiles
623 .Solar collector supported on existing roof structure
624 .Rollable or foldable collector unit of nonrigid material
625 ..Fluent medium is gas
626 ..Fluent medium is water
627 .Foldable collector unit of rigid material
628 .Including means to utilize fluent medium from collector to heat interior of building
629 ..With device to circulate air from room of building through collector
630 ...Plural circulators
631 ...Circulator located in collector
632 ...Circulator located in building
633 ..With fluent medium passage in floor or wall of room
634 .With means to convey fluent medium through collector
635 ..Having evaporator and condenser sections (e.g., heat pipe)
636 ...Particular fluid
637 ....Gas
638 ..Thermosyphonic fluid circulation
639 ...Liquid
640 ..With storage tank for fluent medium

641 ...Having heat exchanger within storage tank
642 ...Tank is heat exchanger
643 ..With heat exchanger
644 ...With solid phase change
645 ...With liquid phase change
646 ..Pump
647 ...Blower
648 ..With radiation trap
649 ...Plural traps
650 ...Particular material
651 ..Conduit absorber structure
652 ...Surrounded by transparent enclosure
653 ....Sealed chamber between enclosure and absorber contains vacuum promoter (e.g., getter)
654 ....Sealed chamber between enclosure and absorber contains gas for promoting heat transfer
655 ....Plurality of conduit absorbers
656 ....Axis of conduit is curved (e.g., helical or serpentine)
657 ....With reflector
658 ...Having heat-absorbing fin or plate
659 ....With fastener to secure fin to conduit
660 ....Plate integral with conduit
661 ....Plate surface with conduit secured thereto
662 ....Conduit positioned in a groove in the plate
663 ...Plural conduits
664 ....Noncircular conduit
665 ....Flexible conduit
666 ...Rectangular metallic conduit
667 ....Having internal partition
668 ...Rectangular nonmetallic conduit
669 ....Having internal partition
670 ...Circular metallic conduit
671 ....Having internal partition
672 ...Circular nonmetallic conduit
673 ....Having internal partition
674 ...Absorber having extended surface
675 ....Corrugated surface
676 ...Particular absorber material
677 ....Metal
678 .Particular fluent medium including radiation absorbing material
679 ..Specific chemical
680 .Energy concentrator with support for material heated
681 ..Solar oven
682 ...Having foldable energy concentrator
683 .With concentrating reflector and concentrating lens
684 .With concentrating reflector
685 ..Plural reflectors in optical series
686 ...Flat and curved
687 ...Flat
688 ..Spot focus
689 ...Spherical
690 ...Parabolic
691 ...Elliptical
692 ..Line focus
693 ...Circular
694 ...Parabolic
695 ...Elliptical
696 ..Reflector support
697 ..Inflatable reflector
698 .With concentrating lens
699 ..Circular lens
700 ..Lens support
701 .Controlling solar radiation
702 ..Interconnected slats (e.g., blinds, shutters)
703 ..Manual
704 .Collector housing
705 ..Cover
706 ...Insulation
707 ...Plastic
708 ...Glass
709 ..Insulation
710 ..Particular material
711 ...Plastic
712 ...Glass
713 ...Metal
714 **PROCESS OF HEATING BY USING SOLAR HEAT**
204 **BODY WARMERS**
205 .Bed heaters
207 .Heated block
206 .Composition fuel
208 .Liquid or gaseous fuel
209 ..Combined heater and lantern
210 ..Water heater
401 **TOOL HAVING FLUID FUEL BURNER**

402 .Branding iron
403 ..Gas
404 ..Hydrocarbon reservoir
405 .Burning tool
406 ..Gas
407 ..Hydrocarbon reservoir
408 .Curling iron
409 ..Hydrocarbon reservoir
410 .Roll heating type
411 .Sadiron
412 ..Hydrocarbon reservoir
413 .Soldering iron
414 ..Hydrocarbon reservoir
226 **TOOL HEATERS**
236 .Soldering iron
237 ..Gas heaters
238 ...Tool-controlled valve
239 ..Liquid fuel
240 ...Combined heater and solder pot
241 ...Lamp
229 .Liquid or gaseous fuel
231 ..Gas burner attachments
232 ...Combined lighting and heating
233 ...Jet mixer
234 ...Tool-controlled valve
235 ..Lamp attachments
230 ..Flatiron
227 .Flatiron
228 ..Attachments
284 **GLUE POTS**
281 **DOUGH RAISERS**
282 .Lamp type
343.5 R **MELTING FURNACES**
343.5 A .Other than snow (asphalt, etc.)
19.5 **COMBUSTION ENGINE-HEATED COOKING STOVES, OVEN OR HEATING VESSELS**
500 **FIREPLACES OR ACCESSORIES**
501 .Hopper feed of solid fuel
502 .Condition responsive control
503 ..Of fluid fuel feed
504 ..Of flue damper
505 .With article warming shelf on grate
506 .With food cooker
507 .With filter
508 .With room humidifier
509 .For heating plural rooms
510 ..Fireplace in dividing wall
511 ...Rotatable fire chamber
512 .Fluid fuel
513 .With liquid heater
514 ..And means conducting liquid to room heater
515 .Inlet air supply from outside fireplace room
516 ..With air pump
517 ...And air flow regulator
518 ..With air flow regulator
519 .Circular viewability of flame
520 .Insertable into existing window
521 .With air pump
522 ..Tubular heat exchanger
523 .With heat exchanger for room heating air
524 ..Tubular
525 ...Secondary outlet leads air to flame
526 ...With air flow regulator
527 ..Secondary outlet leads air to flame
528 ..Air flow path between exterior surface of heat exchanger and facing building surface
529 ...And additional flow path through hollow walled heat exchanger
530 ...With air flow regulator
531 ..Hollow side walls in heat exchanger
532 ..With means facilitating ash removal
533 ..With air flow regulator
534 ...And adjustable flue damper
535 ..And adjustable flue damper
536 .Adjustable flue damper
537 ..Screw operator
538 ..Variable predetermined positions
539 ..From exterior of front face of fireplace
540 .Grate structure
541 ..Relatively movable parts
542 ...Including means facilitating ash removal
543 ....With removable ash pan
544 .Front barrier or guard
545 ..With particular seal
546 ..Vertically adjustable
547 ..Solid front cover
548 ...And perforated screen
549 ...And auxiliary air flow adjuster
550 ..Smoke collecting hood
551 ..Screen slidable on track
552 .Heat reflecting structure
553 ..Adjustable

554 .With means facilitating ash removal
555 ..Removable ash pan
344 **LIQUID HEATER**
345 .Kettle furnace
346 ..Canning
348 ..Steam generator and cooker
349 ..Tilting
347 ..Horizontal combustion chamber
369 .Steam chamber for food
369.1 ..With additional heating fluid
369.2 ..Plural steam chambers
369.3 ...Selective supply
367.1 .Solid fuel burner and submerged under the liquid
368.1 ..United to vessel containing the liquid
364.1 .And stovepipe
365.1 ..Having means to circulate the liquid
373.1 .Open-top vessel that may include lid
374.1 ..And condition responsive feature
375.1 ..Heat accumulator
376.1 ..Heating fluid confining, directing, or shielding feature
377.1 ...Heating fluid is a liquid or steam
378.1 ....In closed chamber or coiled pipe to heat the liquid
379.1 ....Steam jet directed into the liquid of vessel
392.1 ....The liquid circulating between external heating tube and vessel
391.1 ...Flue penetrates wall of vessel into the liquid
380.1 ..And supply of the liquid to vessel
381.1 ..And condenser for steam from vessel
382.1 ...Condenser is confined body of liquid
383.1 ..Collecting, directing, or shielding feature for overflow or spatter of the liquid
384.1 ...And in closure for vessel (e.g., lid, etc.)
385.1 ...Annular receptacle for vessel
386.1 ....Restoring overflow or spatter to vessel
387.1 ..Agitator or circulator using the heated liquid within
388.1 ..And indicator or signaler feature
389.1 ..Vent for steam emitted from the liquid
390.1 ..Heating wall structure
350.1 .Fluid fuel burner for other than top-accessible vessel
351.1 ..And condition responsive feature
355.1 ..And liquid dripping from plate, pan, or suspended strip
357.1 ..And separable heat exchanger to heat the liquid
358.1 ..Wick lamp type
359.1 ..And the liquid flows down a cylindrical or conical surface
360.1 ..And liquid heater is submerged under the liquid
360.2 ...Direct contact of the liquid by exhaust
350.2 ..Vaporizer or humidifier
361.1 .Boiler receiving hot liquid or steam from stove or furnace (e.g., kitchen boiler, range boiler, etc.)
362.1 ..Having means to circulate the liquid
363.1 ..Support
HEATERS
263.01 .Chemical
263.02 ..Oxidation with air
263.03 ..Crystallization of supercooled liquid
263.04 ...By escape of reactant from container within liquid
263.05 ..Liquid in contact with solid (e.g., water and lime)
263.06 ...Including separate solid and liquid compartments
263.07 ....Flexible wall compartment (e.g., flexible plastic bag)
263.08 .....Including means to rupture or open solid or liquid compartment
263.09 ....Including means to rupture or open solid or liquid compartment
263.1 ....Including time release coating on solid in contact with liquid
246 .Dish
269 .Powder
261 .Lunch
268 ..Wagon
265 ..Liquid or gaseous fuel

266 ...Dinner buckets
267 ....Combined bucket and lantern
262 ..Combined can and heater
271.1 .Surface
271.2 R ..Fluid fuel
271.2 A ...Pavement heaters
271.2 B ...Switch heaters
271.2 C ...Machine open burners
271.3 ..Solid fuel
247 .Frictional
.Liquid or gaseous fuel
..Attachments
248 ...Drum
249 ...Gas jet
254 ....Combined
252 ....Article support
253 .....Jet mixer
250 ....Air
251 .....Jet mixer
255 ...Lamp
....Chimney heaters
258 .....Article support
257 .....Air
....Stands
260 .....Article support
259 R .....Air heaters
259 M ......Drums, mufflers and heat exchangers
256 ....Article support

TRASH BURNERS

222 .Cooking stoves
223 ..Feeding attachments
225 .Heating stoves
224 .Domestic-refuse burners

99 R **HOT-AIR FURNACES**

100 .Combined with cooking stove
101 .Combined with boiler
110 R .Compressed air
110 A ..Blower and air damper
110 AA ..Downflow of air being heated
110 B ..Unit heaters
110 C ..Gas and air mixing
110 D ..Unitary fan and heater
110 E ..Thermally actuated air-propelling means
111 .Double fire pot
116 R .Liquid or gaseous fuel
116 A ..Automatic control
116 B ..Floor and wall furnaces
116 C ..Electric auxiliary
117 .Preliminary air heater
106 .Internal air chamber
108 .Secondary heating chamber horizontally arranged
109 .Tubular air heater
107 .Magazine
104 R .Horizontal combustion chamber
104 A ..Blowers
102 .Circular radiating drum
103 .Downdraft
112 .Feeding air
113 .Air moisteners
114 .Casings
115 .Dust flue
105 R .Hot-air equalizers
105 A ..Fan in casing top
118 .Radiating flanges
119 .Joints
99 P .Pipeless
99 A .Tubular heater
99 C .Helical passages
99 D .Air baffles

STOVES

1 R .Cooking
24 ..Ship’s galley
25 R ..Summer
29 ...Field
30 ....Supporting frame
27 ...Stove top-supported
28 ....Stove flue-connected
26 ...Detachable fire pot
25 A ...Variable distance from heat source
25 AA ...Rotating and elevating
25 B ...Igniting
25 C ...Extinguishing
9 R ..Knockdown or separable
9 A ...Disposable units
9 B ...Knockdown elements
4 ..Combined cooking and heating stove
5 ...Steam or water generators
6 ...Air-heating
7 ...Magazine
8 ..Brick set
23 ..Reversible
2 ..Double fire pot
3 ...Cooking and heating
10 ..Magazine
11 ...Portable
33 ..Tables, steam-heated
55 ..Combined base and hot closet
..Liquid or gaseous fuel
38 ...Folding or nesting kit
37 R ...Cabinet
37 A ....Top cover plate
37 B ....Slidable, fold, or swingable
36 ...Combined coal and gas

52 ...Valve mechanism, article-controlled
53 ...Water backs
54 ....Combined burner and water back
39 R ...Gas
41 R ....Broilers
41 A .....Rotary-vertical axis
41 B .....Rotary-horizontal axis
41 C .....Endless chain
41 D .....Drawer
41 E .....Drawer-elevating
40 ....Burner stands
42 ....Safety attachments
39 A ....Heating kitchen
39 B ....Frame structure
39 BA ....Electric features
39 C ....Miscellaneous ovens
39 D ....Indirectly heated
39 E ....Burners and lighters
39 F ....Fireless cookers
39 G ....Thermostatic control
39 H ....Hot plates
39 N ....Hot plates, front plates, valve and manifold
39 J ....Hot plates with radiants
39 K ....Hot plates, air feed, and flame shields
39 L ....Rotating stove
39 M ....Removable liner
...Liquid
43 ....Alcohol
44 ....Vapor
45 ....Wick
46 .....Extension top
47 .....Lamp type
48 ......Combined top, chimney and burner
49 .....Reservoir supporting top and burner
51 ....Drip pan or receptacle
50 ...Supporting frame
15 R ..Feeding air
15 A ...Forced air
16 ..Flue cleaners
..Elevated ovens
17 ...Smoke pipe-heated
18 ...Top plate-supported
19 R ..Ovens
20 ...Steam or hot water
20.1 ....Plural
20.2 .....Selective supply
21 R ...Ventilated
21 A ....Forced circulation
22 ...Protector plate
19 M ...Movable ovens
34 ..Water backs
35 ...Safety devices
..Water-heating
31 ...Flue extension
12 ..Hearths
13 ...Fire pot
14 ..Broiling attachments
32 ..Spittoon attachments
1 A ..Side oven
1 AA ..Wall in common
1 AB ..Wall separate
1 AC ..Wall laterally spaced
1 AD ..Wall lateral air feed
1 AE ..Wall lateral gas passage
1 B ..Side and superimposed oven
1 C ..Side and underlying oven
1 D ..Superimposed oven
1 E ..Underlying oven
1 F ..Insulation
56 .Car
57 ..Protective casings
58 .Heating
59 ..Camp
59.5 ..Orchard
60 ..Horizontal body
61 ...Hot air
64 ..Panel
65 ..Sheet metal
66 ...Hot air
79 ..Smoke and gas returning
..Liquid or gaseous fuel
84 ...Combined heating and ventilating
85 R ...Gas
91 R ....Radiator type
91 A .....Elongated radiant tube
86 ....Open front
87 .....Asbestos fireback
88 ......Hot air
89 .....Hot air
90 R ....Hot air
90 A .....Electric heater
92 R ....Incandescent fire grate
92 AC .....Radiant
92 A .....Electric radiant
92 B .....Radiant with reflector
92 C .....Radiant enclosed by furnace shell
85 A ....Brooder stoves
85 B ....Connected to outside
93 ...Liquid
94 ....Flue-connected

95 ....Vapor
96 ....Wick
97 .....Heating and illuminating
67 ..Hot air
68 ...Magazine
69 ...Revertible draft, base-heating
72 ...Tubular air heaters
70 ...Internal air chamber
71 ...Central air tube
73 ..Magazine
74 ...Revertible draft, base-heating
75 ..Revertible draft, base-heating
76 ..Downdraft
77 ..Feeding air
78 ..Feeding steam
80 ..Ventilating attachments
81 ..Stove plates
82 ..Adjustable pipe collar
83 ..Deflector plate
98 ..Joints
OVENS
273 R .Domestic
273.5 ..With heat accumulator, e.g., fireless
274 ..Dutch
275 R ..Portable
275 E ...Electric
273 A ..Wall-mounted
276 .Wagon
144 **FIRE POTS AND LININGS**
.Rotary
149 ..Horizontal axis
150 ..Vertical axis
145 .Adjustable
146 .Feeding air
147 .Divided
151 .Sectional
148 .Fire plate
242 **ASH DISCHARGE AND COLLECTING**
245 .Combined stove and ash pan
243 .Ash pans
244 ..Sifting
211 **STOVE LIDS AND TOPS**
217 .Heating stove
218 ..Cooking attachments
219 ..Ornaments and urns
213 .Illuminating
214 R .Liquid or gaseous fuel
215 ..Elevating support
216 ..Extension top
214 A ..Units mounted in counter top
214 B ..Buck panel structure
214 C ..Top grid
214 D ..Shields and deflectors
212 .Centers or cross pieces
220 .Lids
221 .Stove mats
400 **HEAT ACCUMULATOR STRUCTURES**
190 **STOVE DOORS AND WINDOWS**
198 .Oven doors, ventilating
193 .Feeding air
191 .Balanced
.Latches
197 ..Combined latch and operator
192 .Door-operator
194 .Hinges
200 .Transparent panel
332 **STOVE SHELVES**
337 R .Oven shelf or rack
338 ..Rotary
339 ..Sliding
340 ...Door-operated
337 A ..Shelf-adjusting
334 .Drop
335 ..Door-operated
333 .Brackets or stands
285 R **DAMPERS**
285.5 .Timer-controlled
286 .Distance operating devices
287 ..Door-operated
287.5 .Fusible release
289 .Stove
290 ..Draft
291 ..Repair
292 .Stovepipe
293 ..Combined damper and ventilator
295 ..Lock and indicator
296 ..Multiple
297 ..Sinuous passage
294 ..Cone
285 A .Slide
285 B .Electric
152 R **GRATES**
163 R .Feeding air
163 A ..Auxiliary grate
153 .Adjustable
154 ..Vertically
160 .Closures
166 .Fuel cut-off
161 .Cut-off
.Rotary
181 ..Horizontal axis
182 ..Vertical axis
.OSCILLATORY
170 ..Vertical axis
171 ...Dumping section
172 ...Sliding section
176 R .Rocking bar

177 ..Dumping
178 ..Duplex
179 ..Grate bar
180 ...Removing fuel support
176 A ..Detachable shaker arms
174 .Reciprocating
175 ..Alternate bar
155 .Agitating
159 ..Pocket
158 ..Dumping
156 ..Alternate ends
157 ..Alternate bar
162 .Dumping
167 .Grate bar
168 ..Removable fuel support
169 .Operating mechanism
173 .Raking attachments
152 A .Reinforcements
152 B .Special features
299 R **STOVE HOODS**
300 .Stove discharge
301 .Stovepipe discharge
302 ..Stove casing
303 ..Top plate casing
299 C .Splatter shields
299 D .Stove surface ventilation only
299 E ..Including liquid contact
299 F .Smoke eliminators and flue deflectors
307 R **STOVEPIPES**
312 .Ventilation
313 .Air-moistening attachments
307 A .Back draft diverter
314 **STOVEPIPE THIMBLES**
316 .Combined thimble and ventilator
315 .Adjustable flue collar
318 .Stovepipe anchor or lock
319 .Flue stoppers
317 .Floor or ceiling plates
280 **SOOT CATCHERS**
201 **FENDERS**
298 **FIRE DOGS**
277 **PLATFORMS**
278 .Stove boards
279 .Ventilating
304 R **STOVE LEGS**
305 .Base supports
306 .Sheet metal
304 A .Adjustable legs
283 **FUEL BOXES**

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904 **ARRANGEMENTS FOR SEALING SOLAR COLLECTOR**
905 **PREVENTING CONDENSING OF MOISTURE IN SOLAR COLLECTOR**
906 **CONNECTING PLURAL SOLAR COLLECTORS AS A UNIT**
907 **ABSORBER COATING**
908 .Particular chemical
909 **LINEAR CONCENTRATING LENS**
910 **HEAT STORAGE LIQUID**

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